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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,064	01/15/2002	Robert John Kopmeiners	4-16	5334
47386	7590	04/18/2006		
RYAN, MASON & LEWIS, LLP 1300 POST ROAD SUITE 205 FAIRFIELD, CT 06824			EXAMINER AGHDAM, FRESHTEH N	
			ART UNIT 2611	PAPER NUMBER

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/047,064	Applicant(s) KOPMEINERS ET AL.	
	Examiner Freshteh N. Aghdam	Art Unit 2611	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

In view of the appeal brief filed on 1/13/2006, PROSECUTION IS HEREBY REOPENED.

TO avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

  
MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the predetermined set of symbols and the reference symbols must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because the drawings are missing descriptive labels.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piirainen (US 6,396,878), and further in view of Bar-David et al (US 5,623,511).

As to claim 1, Piirainen teaches a detection method using a receiver of a digital communication system for the detection of a symbol from a received signal, which signal is a selected symbol out of a predetermined set of symbols and wherein each symbol of the predetermined set is modulated according to a modulation coding scheme, wherein the method comprises generating a set of reference symbols on the basis of the predetermined set of symbols and a channel impulse response between the transmitter and the receiver; and comparing each of the successive parts of the received signal, each part having the length of a symbol, with each of the reference symbols yielding a detected symbol for each part of the received signal (Col. 13, Lines 1-24; Col. 16, Lines 50-62). Piirainen further teaches that each symbol comprises a plurality of chips (bits) see (Col. 5, Lines 24-29). Piirainen is silent about each symbol of a predetermined set comprises a sequence of chips, wherein each chip is PSK modulated. Bar-David teaches a digital communication system that utilizes PSK

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modulation, wherein each symbol comprises a sequence of chips (Col. 1, Lines 18-35). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Bar-David with Piirainen in order to meet with the requirements of the FCC so as not to interfere with the operation of industrial, scientific and medical devices (Col. 1, Lines 18-35).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Critchlow (US 5,276,706), and further in view of Bar-David et al.

As to claim 4, Critchlow teaches a detection method using a receiver of a digital communication system for the detection of a symbol from a received signal (Fig. 1, means 24, 30, and 44), which signal is a selected symbol out of a predetermined set of symbols (Fig. 1, means 36) and wherein each symbol of the predetermined set is modulated according to a modulation coding scheme (Col. 5, Lines 17-45; Col. 7, Lines 7-35), wherein the method further comprises filtering the received signal with a filter which yields a filter signal (Col. 3, Lines 18-41; Col. 5, Lines 17-45; means 24), wherein the filter is a matched; the filter signal is compared with the predetermined set of symbols (means 37) in order to detect a symbol with the highest reliability (Fig. 1, means 44). Critchlow is silent about the filter is a match to the channel impulse response between the transmitter and the receiver; and each symbol of a predetermined set comprises a sequence of chips and each chip is PSK modulated. Bar-David teaches a digital communication system that employs a channel match filter for compensating for any phase shifts or amplitude distortion caused by the delay spread

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of the channel by convolving the received signal with the channel impulse response (Fig. 6, means 650 and 660; Col. 12, Lines 15-22); utilizes PSK modulation, wherein each symbol comprises a sequence of chips (Col. 1, Lines 18-35). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Bar-David with Citchlow in order to meet with the requirements of the FCC so as not to interfere with the operation of industrial, scientific and medical devices (Col. 1, Lines 18-35).

### ***Allowable Subject Matter***

Claims 2-3 and 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kobayashi et al (US 6,246,732); Yoshida (US 6,452,964); Shoji et al (US 5,303,263); and Huang et al (US 6,154,443).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam  
April 13, 2006

  
**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**